

DT05 Rec'd PCT/PTO 10 DEC 2004

## SEQUENCE LISTING

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&lt;120&gt; Chromo protein

&lt;130&gt; A31347A

&lt;160&gt; 22

&lt;210&gt; 1

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; Cnidopus japonicus

&lt;400&gt; 1

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

1 5 10 15

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly

20 25 30

Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly

35 40 45

Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Tyr

50 55 60

Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe

65 70 75 80

Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr

85 90 95

Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly

100 105 110

Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro

115 120 125

Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys

130

135

140

Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met

145

150

155

160

Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr

165

170

175

Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe

180

185

190

His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly

195

200

205

Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr

210

215

220

Cys Pro Ser Lys Leu Gly His Asn

225

230

<210> 2

<211> 699

<212> DNA

<213> Cnidopus japonicus

<400> 2

atg gct tcc aaa atc agc gac aat gta cgt atc aag tta tat atg gag 48

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

1

5

10

15

ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc 96

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly

20

25

30

aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga 144



Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe	
180	185
190	
cat ttt tca gac cat cgt cct gaa ata gtg aag gtt tca gag aac ggc	624
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly	
195	200
205	
aca cta ttt gaa cag cac gaa agt tca gtg gcc agg tac tgt caa aca	672
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr	
210	215
220	
tgc cca tct aaa ctt ggt cac aat taa	699
Cys Pro Ser Lys Leu Gly His Asn	
225	230

<210> 3

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

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<213> Artificial Sequence

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<210> 5

<211> 36

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<210> 6

<211> 22

<212> DNA

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<223> Description of Artificial Sequence: Synthetic DNA

<400> 6

agacgaggca atttccatca ag 22

<210> 7

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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20

<210> 8

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<223> Description of Artificial Sequence: Synthetic DNA

<400> 8

ggctacgctt ccatattggc agtt

24

<210> 9

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 9

cgggatccga ccatggcttc caaaatcagc

30

<210> 10

<211> 36

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic DNA

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<210> 11

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 11

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

1 5 10 15

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly

20 25 30

Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly

35 40 45

Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Leu

50 55 60

Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe

65 70 75 80

Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr

85 90 95

Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly

100 105 110

Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro

115 120 125

Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys

130 135 144

Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met

145	150	155	160
Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr			
	165	170	175
Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe			
	180	185	190
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly			
	195	200	205
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr			
	210	215	220
Cys Pro Ser Lys Leu Gly His Asn			
225	230		

<210> 12

<211> 699

<212> DNA

<213> Cnidopus japonicus

<400> 12

atg gct tcc aaa atc agc gac aat gta cgt atc aag tta tat atg gag	48
Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu	
1 5 10 15	
ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc	96
Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly	
20 25 30	
aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga	144
Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly	
35 40 45	
ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa ctt	192



Gly	Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Asn	Cys	Gln	Leu	
50								55								60
gga agc gta gcc ata acc aag tat aca tca ggg att cca gac tac ttt 240																
Gly	Ser	Val	Ala	Ile	Thr	Lys	Tyr	Thr	Ser	Gly	Ile	Pro	Asp	Tyr	Phe	
65								70								75
aag caa tct ttt cct gaa gga ttt acc tgg gaa aga acc aca atc tac 288																
Lys	Gln	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Thr	Thr	Ile	Tyr	
								85								90
gaa gat ggg gct tac ctt aca act caa caa gaa acc aaa ctt gat gga 336																
Glu	Asp	Gly	Ala	Tyr	Leu	Thr	Thr	Gln	Gln	Glu	Thr	Lys	Leu	Asp	Gly	
								100								105
aat tgc ctc gtc tac aat att aaa atc ctt gga tgt aat ttt ccc ccc 384																
Asn	Cys	Leu	Val	Tyr	Asn	Ile	Lys	Ile	Leu	Gly	Cys	Asn	Phe	Pro	Pro	
								115								120
aat ggt cct gtg atg cag aag aaa acc caa ggc tgg gaa ccc tgt tgc 432																
Asn	Gly	Pro	Val	Met	Gln	Lys	Lys	Thr	Gln	Gly	Trp	Glu	Pro	Cys	Cys	
								130								135
gag atg cgc tat aca cgt gat ggt gtg cta tgt ggc caa aca tta atg 480																
Glu	Met	Arg	Tyr	Thr	Arg	Asp	Gly	Val	Leu	Cys	Gly	Gln	Thr	Leu	Met	
								145								150
gca ctt aaa tgc gcc gat ggg aac cac ctc act tgc cat ctg aga act 528																
Ala	Leu	Lys	Cys	Ala	Asp	Gly	Asn	His	Leu	Thr	Cys	His	Leu	Arg	Thr	
								165								170
act tac agg tcc aaa aag gca gca aag gcg ttg cag atg cca ccc ttc 576																
Thr	Tyr	Arg	Ser	Lys	Lys	Ala	Ala	Lys	Ala	Leu	Gln	Met	Pro	Pro	Phe	
								180								185
cat ttt tca gac cat cgt cct gaa ata gtg aag gtt tca gag aac ggc 624																
																190

His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly  
 195 200 205  
 aca cta ttt gaa cag cac gaa agt tca gtg gcc agg tac tgt caa aca 672  
 Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr  
 210 215 220  
 tgc cca tct aaa ctt ggt cac aat taa 699  
 Cys Pro Ser Lys Leu Gly His Asn  
 225 230

<210> 13

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 13

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu  
 1 5 10 15  
 Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly  
 20 25 30  
 Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly  
 35 40 45  
 Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met  
 50 55 60  
 Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe  
 65 70 75 80  
 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr  
 85 90 95  
 Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly

100	105	110
Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro		
115	120	125
Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys		
130	135	140
Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met		
145	150	155
Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr		
165	170	175
Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe		
180	185	190
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly		
195	200	205
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr		
210	215	220
Cys Pro Ser Lys Leu Gly His Asn		
225	230	

<210> 14

<211> 699

<212> DNA

<213> Cnidopus japonicus

<400> 14

atg gct tcc aaa atc agc gac aat gta cgt atc aag tta tat atg gag	48
Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu	
1	5
ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc	96

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly  
                     20                                    25                                    30  
 aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga 144  
 Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly  
                     35                                    40                                    45  
 ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa atg 192  
 Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met  
                     50                                    55                                    60  
 gga agc gta gcc ata acc aag tat aca tca ggg att cca gac tac ttt 240  
 Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe  
                     65                                    70                                    75                                    80  
 aag caa tct ttt cct gaa gga ttt acc tgg gaa aga acc aca atc tac 288  
 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr  
                                     85                                    90                                    95  
 gaa gat ggg gct tac ctt aca act caa caa gaa acc aaa ctt gat gga 336  
 Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly  
                                     100                                    105                                    110  
 aat tgc ctc gtc tac aat att aaa atc ctt gga tgt aat ttt ccc ccc 384  
 Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro  
                                     115                                    120                                    125  
 aat ggt cct gtg atg cag aag aaa acc caa ggc tgg gaa ccc tgt tgc 432  
 Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys  
                                     130                                    135                                    140  
 gag atg cgc tat aca cgt gat ggt gtg cta tgt ggc caa aca tta atg 480  
 Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met  
                                     145                                    150                                    155                                    160  
 gca ctt aaa tgc gcc gat ggg aac cac ctc act tgc cat ctg aga act 528

Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr  
165 170 175  
act tac agg tcc aaa aag gca gca aag gcg ttg cag atg cca ccc ttc 576  
Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe  
180 185 190  
cat ttt tca gac cat cgt cct gaa ata gtg aag gtt tca gag aac ggc 624  
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly  
195 200 205  
aca cta ttt gaa cag cac gaa agt tca gtg gcc agg tac tgt caa aca 672  
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr  
210 215 220  
tgc cca tct aaa ctt ggt cac aat taa 699  
Cys Pro Ser Lys Leu Gly His Asn  
225 230

<210> 15

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 15

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu  
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Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly  
20 25 30  
Lys Pro Tyr Glu Gly Thr Gln Met Leu Asn Ile Lys Val Thr Lys Gly  
35 40 45  
Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met

50	55	60
Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Gly		
65	70	75
Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr		80
	85	90
		95
Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly		
100	105	110
Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro		
115	120	125
Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys		
130	135	140
Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met		
145	150	155
		160
Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr		
	165	170
		175
Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe		
180	185	190
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly		
195	200	205
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr		
210	215	220
Cys Pro Ser Lys Leu Gly His Asn		
225	230	

<210> 16

<211> 699

<212> DNA

<213> Cnidopus japonicus

<400> 16

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      1              5              10              15
ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc 96
Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly
              20              25              30
aag cca tac gag gga act caa atg ctt aac ata aaa gtc acc aaa gga 144
Lys Pro Tyr Glu Gly Thr Gln Met Leu Asn Ile Lys Val Thr Lys Gly
              35              40              45
ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa tat 192
Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met
              50              55              60
gga agc gta gcc ata acc aag tat aca tca ggg att cca gac tac ggt 240
Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Gly
              65              70              75              80
aag caa tct ttt cct gaa gga ttt acc tgg gaa aga acc aca atc tac 288
Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr
              85              90              95
gaa gat ggg gct tac ctt aca act caa caa gaa acc aaa ctt gat gga 336
Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly
              100             105             110
aat tgc ctc gtc tac aat att aaa atc ctt gga tgt aat ttt ccc ccc 384
Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro
              115             120             125
aat ggt cct gtg atg cag aag aaa acc caa ggc tgg gaa ccc tgt tgc 432
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Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys  
 130 135 140  
 gag atg cgc tat aca cgt gat ggt gtg cta tgt ggc caa aca tta atg 480  
 Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met  
 145 150 155 160  
 gca ctt aaa tgc gcc gat ggg aac cac ctc act tgc cat ctg aga act 528  
 Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr  
 165 170 175  
 act tac agg tcc aaa aag gca gca aag gcg ttg cag atg cca ccc ttc 576  
 Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe  
 180 185 190  
 cat ttt tca gac cat cgt cct gaa ata gtg aag gtt tca gag aac ggc 624  
 His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly  
 195 200 205  
 aca cta ttt gaa cag cac gaa agt tca gtg gcc agg tac tgt caa aca 672  
 Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr  
 210 215 220  
 tgc cca tct aaa ctt ggt cac aat taa 699  
 Cys Pro Ser Lys Leu Gly His Asn  
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<210> 17

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 17

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu



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Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly			
	20	25	30
Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly			
	35	40	45
Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Phe			
	50	55	60
Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe			
65	70	75	80
Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr			
	85	90	95
Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly			
	100	105	110
Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro			
	115	120	125
Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Cys Cys			
	130	135	140
Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met			
145	150	155	160
Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr			
	165	170	175
Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe			
	180	185	190
His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly			
	195	200	205
Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr			
	210	215	220

Cys Pro Ser Lys Leu Gly His Asn

225

230

<210> 18

<211> 699

<212> DNA

<213> Cnidopus japonicus

<400> 18

atg gct tcc aaa atc agc gac aat gta cgt atc aag tta tat atg gag 48

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

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10

15

ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc 96

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly

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25

30

aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga 144

Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly

35

40

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ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa ttt 192

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55

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65

70

75

80

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Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr

85

90

95

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Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly  
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 Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro  
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 aat ggt cct gtg atg cag aag aaa acc caa ggc tgg gaa ccc tgt tgc 432  
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 Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met  
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 Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr  
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 Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe  
 180 185 190  
 cat ttt tca gac cat cgt cct gaa ata gtg aag gtt tca gag aac ggc 624  
 His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly  
 195 200 205  
 aca cta ttt gaa cag cac gaa agt tca gtg gcc agg tac tgt caa aca 672  
 Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr  
 210 215 220  
 tgc cca tct aaa ctt ggt cac aat taa 699  
 Cys Pro Ser Lys Leu Gly His Asn  
 225 230

<210> 19

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 19

Met	Ala	Ser	Lys	Ile	Ser	Asp	Asn	Val	Arg	Ile	Lys	Leu	Tyr	Met	Glu
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			20					25					30		
Lys	Pro	Tyr	Glu	Gly	Thr	Gln	Met	Glu	Asn	Ile	Lys	Val	Thr	Lys	Gly
		35					40						45		
Gly	Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Asn	Cys	Gln	His
		50					55					60			
Gly	Ser	Val	Ala	Ile	Thr	Lys	Tyr	Thr	Ser	Gly	Ile	Pro	Asp	Tyr	Phe
	65					70				75				80	
Lys	Gln	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Thr	Thr	Ile	Tyr
				85					90					95	
Glu	Asp	Gly	Ala	Tyr	Leu	Thr	Thr	Gln	Gln	Glu	Thr	Lys	Leu	Asp	Gly
			100						105					110	
Asn	Cys	Leu	Val	Tyr	Asn	Ile	Lys	Ile	Leu	Gly	Cys	Asn	Phe	Pro	Pro
			115						120					125	
Asn	Gly	Pro	Val	Met	Gln	Lys	Lys	Thr	Gln	Gly	Trp	Glu	Pro	Cys	Cys
		130					135					140			
Glu	Met	Arg	Tyr	Thr	Arg	Asp	Gly	Val	Leu	Cys	Gly	Gln	Thr	Leu	Met
	145						150				155			160	
Ala	Leu	Lys	Cys	Ala	Asp	Gly	Asn	His	Leu	Thr	Cys	His	Leu	Arg	Thr
				165					170					175	

Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe

180

185

190

His Phe Ser Asp His Arg Pro Glu Ile Val Lys Val Ser Glu Asn Gly

195

200

205

Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr

210

215

220

Cys Pro Ser Lys Leu Gly His Asn

225

230

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<211> 699

<212> DNA

<213> *Cnidopus japonicus*

<400> 20

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Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

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5

10

15

ggc aca gtc aac aat cat cac ttc atg tgc gaa gct gaa gga gag ggc 96

Gly Thr Val Asn Asn His His Phe Met Cys Glu Ala Glu Gly Glu Gly

20

25

30

aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga 144

Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly

35

40

45

ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa cat 192

Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln His

50

55

60

gga agc gta gcc ata acc aag tat aca tca ggg att cca gac tac ttt 240

Gly	Ser	Val	Ala	Ile	Thr	Lys	Tyr	Thr	Ser	Gly	Ile	Pro	Asp	Tyr	Phe
65					70					75					80
aag	caa	tct	ttt	cct	gaa	gga	ttt	acc	tgg	gaa	aga	acc	aca	atc	tac 288
Lys	Gln	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Thr	Thr	Ile	Tyr
				85						90					95
gaa	gat	ggg	gct	tac	ctt	aca	act	caa	caa	gaa	acc	aaa	ctt	gat	gga 336
Glu	Asp	Gly	Ala	Tyr	Leu	Thr	Thr	Gln	Gln	Glu	Thr	Lys	Leu	Asp	Gly
				100						105					110
aat	tgc	ctc	gtc	tac	aat	att	aaa	atc	ctt	gga	tgt	aat	ttt	ccc	ccc 384
Asn	Cys	Leu	Val	Tyr	Asn	Ile	Lys	Ile	Leu	Gly	Cys	Asn	Phe	Pro	Pro
				115						120					125
aat	ggt	cct	gtg	atg	cag	aag	aaa	acc	caa	ggc	tgg	gaa	ccc	tgt	tgc 432
Asn	Gly	Pro	Val	Met	Gln	Lys	Lys	Thr	Gln	Gly	Trp	Glu	Pro	Cys	Cys
				130						135					140
gag	atg	cgc	tat	aca	cgt	gat	ggt	gtg	cta	tgt	ggc	caa	aca	tta	atg 480
Glu	Met	Arg	Tyr	Thr	Arg	Asp	Gly	Val	Leu	Cys	Gly	Gln	Thr	Leu	Met
145					150					155					160
gca	ctt	aaa	tgc	gcc	gat	ggg	aac	cac	ctc	act	tgc	cat	ctg	aga	act 528
Ala	Leu	Lys	Cys	Ala	Asp	Gly	Asn	His	Leu	Thr	Cys	His	Leu	Arg	Thr
				165						170					175
act	tac	agg	tcc	aaa	aag	gca	gca	aag	gcg	ttg	cag	atg	cca	ccc	ttc 576
Thr	Tyr	Arg	Ser	Lys	Lys	Ala	Ala	Lys	Ala	Leu	Gln	Met	Pro	Pro	Phe
				180						185					190
cat	ttt	tca	gac	cat	cgt	cct	gaa	ata	gtg	aag	gtt	tca	gag	aac	ggc 624
His	Phe	Ser	Asp	His	Arg	Pro	Glu	Ile	Val	Lys	Val	Ser	Glu	Asn	Gly
				195						200					205
aca	cta	ttt	gaa	cag	cac	gaa	agt	tca	gtg	gcc	agg	tac	tgt	caa	aca 672

Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr

210

215

220

tgc cca tct aaa ctt ggt cac aat taa

699

Cys Pro Ser Lys Leu Gly His Asn

225

230

<210> 21

<211> 232

<212> PRT

<213> Cnidopus japonicus

<400> 21

Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu

1

5

10

15

Gly Thr Val Asn Asn His His Phe Met Val Glu Ala Glu Gly Glu Gly

20

25

30

Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly

35

40

45

Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met

50

55

60

Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe

65

70

75

80

Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr

85

90

95

Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly

100

105

110

Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro

115

120

125

Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Ser Cys  
 130 135 140  
 Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met  
 145 150 155 160  
 Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr  
 165 170 175  
 Thr Tyr Arg Ser Lys Lys Ala Ala Lys Ala Leu Gln Met Pro Pro Phe  
 180 185 190  
 His Phe Ser Asp His Arg Leu Glu Ile Val Lys Val Ser Glu Asn Gly  
 195 200 205  
 Thr Leu Phe Glu Gln His Glu Ser Ser Val Ala Arg Tyr Cys Gln Thr  
 210 215 220  
 Cys Pro Ser Lys Leu Gly His Asn  
 225 230

<210> 22

<211> 699

<212> DNA

<213> *Cnidopus japonicus*

<400> 22

atg gct tcc aaa atc agc gac aat gta cgt atc aag tta tat atg gag 48  
 Met Ala Ser Lys Ile Ser Asp Asn Val Arg Ile Lys Leu Tyr Met Glu  
 1 5 10 15  
 ggc aca gtc aac aat cat cac ttc atg gtc gaa gct gaa gga gag ggc 96  
 Gly Thr Val Asn Asn His His Phe Met Val Glu Ala Glu Gly Glu Gly  
 20 25 30  
 aag cca tac gag gga act caa atg gag aac ata aaa gtc acc aaa gga 144



Lys Pro Tyr Glu Gly Thr Gln Met Glu Asn Ile Lys Val Thr Lys Gly  
                   35                                  40                                  45  
 ggc cct ctg ccg ttc tct ttt gat atc ttg acg cct aac tgc caa tat 192  
 Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Asn Cys Gln Met  
                   50                                  55                                  60  
 gga agc gta gcc ata acc aag tat aca tca ggg att cca gac tac ttt 240  
 Gly Ser Val Ala Ile Thr Lys Tyr Thr Ser Gly Ile Pro Asp Tyr Phe  
                   65                                  70                                  75                                  80  
 aag caa tct ttt cct gaa gga ttt acc tgg gaa aga acc aca atc tac 288  
 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Ile Tyr  
                                   85                                  90                                  95  
 gaa gat ggg gct tac ctt aca act caa caa gaa acc aaa ctt gat gga 336  
 Glu Asp Gly Ala Tyr Leu Thr Thr Gln Gln Glu Thr Lys Leu Asp Gly  
                                   100                                  105                                  110  
 aat tgc ctc gtc tac aat att aaa atc ctt gga tgt aat ttt ccc ccc 384  
 Asn Cys Leu Val Tyr Asn Ile Lys Ile Leu Gly Cys Asn Phe Pro Pro  
                                   115                                  120                                  125  
 aat ggt cct gtg atg cag aag aaa acc caa ggc tgg gaa ccc agt tgc 432  
 Asn Gly Pro Val Met Gln Lys Lys Thr Gln Gly Trp Glu Pro Ser Cys  
                                   130                                  135                                  140  
 gag atg cgc tat aca cgt gat ggt gtg cta tgt ggc caa aca tta atg 480  
 Glu Met Arg Tyr Thr Arg Asp Gly Val Leu Cys Gly Gln Thr Leu Met  
                                   145                                  150                                  155                                  160  
 gca ctt aaa tgc gcc gat ggg aac cac ctc act tgc cat ctg aga act 528  
 Ala Leu Lys Cys Ala Asp Gly Asn His Leu Thr Cys His Leu Arg Thr  
                                   165                                  170                                  175  
 act tac agg tcc aaa aag gca gca aag gcg ttg cag atg cca ccc ttc 576

Thr	Tyr	Arg	Ser	Lys	Lys	Ala	Ala	Lys	Ala	Leu	Gln	Met	Pro	Pro	Phe	
			180					185					190			
cat	ttt	tca	gac	cat	cgt	ctt	gaa	ata	gtg	aag	gtt	tca	gag	aac	ggc	624
His	Phe	Ser	Asp	His	Arg	Leu	Glu	Ile	Val	Lys	Val	Ser	Glu	Asn	Gly	
			195					200					205			
aca	cta	ttt	gaa	cag	cac	gaa	agt	tca	gtg	gcc	agg	tac	tgt	caa	aca	672
Thr	Leu	Phe	Glu	Gln	His	Glu	Ser	Ser	Val	Ala	Arg	Tyr	Cys	Gln	Thr	
			210					215					220			
tgc	cca	tct	aaa	ctt	ggt	cac	aat	taa								699
Cys	Pro	Ser	Lys	Leu	Gly	His	Asn									
225								230								